

evidence they present, however, is flawed. For example, they claim that there is evidence of vigorous competition in the fact that five days after DIRECTV announced that it was beginning to offer local service at \$5.99 per month, EchoStar announced it was going to start providing a similar line-up of local channels for \$4.99. These events occurred in late November 1999. The commenters fail to note a crucial event that also occurred in late November 1999: The Satellite Home Viewer Improvement Act (SHVIA) of 1999 allowed EchoStar and DIRECTV to carry "local-into-local" service for the first time starting on November 29, 1999. Therefore, vigorous competition between the two DBS firms is not evidenced by the fact that they had announced at roughly the same time that they were going to provide local service.

58. Similarly, the commenters cite the fact that both firms announced the availability of HDTV compatible set-top receivers within one day of each other. But the announcements of both EchoStar and DIRECTV occurred at the 2000 Consumer Electronics Show in Las Vegas, Nevada.<sup>71</sup> Since firms generally announce new services and equipment at large electronics shows, such as the Consumer Electronics Show, this purported evidence of head-to-head competition is more likely a coincidence than a competitive response. The commenters also claim that both DBS firms announced on December 27, 2001 that they were going to carry more local channels in each market. But, once again, the commenters ignore other events. On January 1, 2002, the DBS firms' must-carry obligations went into effect and both firms were required by law to

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<sup>71</sup> See EchoStar Press Release, "EchoStar's DISH Network Offers New HDTV Satellite TV Receiver," January 6, 2000, and Panasonic Press Release, "Panasonic to Manufacture and Market HDTV DIRECTV Systems," January 5, 2000.

offer more local channels. The incidents cited by opponents of the merger thus do not provide persuasive evidence of intense competition between the two DBS firms.

59. While the commenters claim that competition between EchoStar and DIRECTV is intense, the only evidence that they provide is a series of purported responses of one firm to the other firm's promotions. Indeed, the commenters have tried to frame the key question as whether EchoStar and DIRECTV compete at all. They argue that if they compete at all, the merger will have a significant and adverse effect on competition in the MVPD market. The more relevant question for analyzing the impact of the merger on competition in the MVPD market, however, is not whether they compete at all. Rather, it is the *degree* of competition between EchoStar and DIRECTV in a market including DBS providers, cable operators, other MVPD providers, and perhaps even broadcast television.

60. To analyze the degree of competition between DBS and cable and between DBS firms, it is instructive to examine the distribution of the video services to which DBS customers previously subscribed, as well as what percentage of customers depart DIRECTV for a broad set of "cost" or "price" reasons and then subscribe with EchoStar, digital cable, analog cable, or simply use an antenna.<sup>72</sup>

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<sup>72</sup> The following disconnect reasons provided by survey respondents were categorized as "cost" or "price" reasons: "Too expensive;" "Too many additional charges/Need to purchase additional receivers for other TVs;" "Can't afford/Financial problems;" "Catch up on my bills;" "Cable is better deal/Cable is cheaper;" "Too expensive with Cable and DirecTV;" "Charge for additional outlets;" "Raised the price."

61. Each month, DIRECTV surveys a random sample of roughly 350 current subscribers and asks them a series of questions, including whether they have ever subscribed to cable or another DBS service.<sup>73</sup> Such data can therefore be used to examine what share of DIRECTV subscribers had previously been cable and EchoStar subscribers. The data suggest that less than nine percent of DIRECTV's new subscribers were previously subscribers to EchoStar.<sup>74</sup> By comparison, roughly 61 percent of DIRECTV's new subscribers are either previous or current cable subscribers.<sup>75</sup> Although such figures are not necessarily conclusive, they confirm the views expressed by DBS executives – namely that the “objective of each firm is to gain market share by luring consumers away from the leading cable providers,” not the customers of the other DBS firm.<sup>76</sup>

62. I also utilize each firm's churn data for indications of the degree of competition between the DBS firms. DIRECTV conducts a monthly telephone survey of former subscribers who are randomly selected from the pool of subscribers who

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<sup>73</sup> Since August 2000, the DIRECTV customer satisfaction survey has asked subscribers whether they were a cable subscriber *before* subscribing to DIRECTV. In April 2001, DIRECTV added a question about whether subscribers had ever subscribed to EchoStar.

<sup>74</sup> The DIRECTV customer satisfaction survey asks “prior to subscribing to DIRECTV, have you ever subscribed to EchoStar/The Dish Network.” Respondents can answer “yes,” “no,” or “don't know.” Of the approximately 350 DIRECTV subscribers surveyed on a monthly basis, roughly 40 to 70 respondents are “new subscribers” (i.e., those who subscribed to DIRECTV within the past 90 days of the survey interview). If one were to focus on the entire sample interviewed by the customer satisfaction survey, rather than on new subscribers, the fraction of subscribers that were previously EchoStar subscribers is also less than nine percent.

<sup>75</sup> The DIRECTV customer satisfaction survey also asks, “Which of these best describes your cable TV situation before you had DIRECTV?” Respondents can answer “I used to subscribe to cable TV and still do,” “I used to subscribe to cable TV but not now,” “I did not subscribe to cable TV then or now,” “I did not subscribe to cable TV then but do now,” “Cable TV was not available in your area,” or “Don't know.” If one were to focus on the entire sample interviewed by the customer satisfaction survey, rather than on new subscribers, 57 percent of respondents were previous or current cable subscribers.

<sup>76</sup> See Robert D. Willig, Declaration On Behalf Of EchoStar Communications Corporation, General Motors Corporation, and Hughes Electronics Corporation, *EchoStar Communications Corporation, General Motors Corporation, and Hughes Electronics Corporation Seek FCC Consent For A Proposed Transfer Of Control*, CS Docket No. 01-348, (released December 21, 2001), (“Willig Declaration”) at ¶ 10.

disconnect voluntarily or are disconnected by DIRECTV for not paying their bill. The survey is undertaken two to six weeks after subscribers depart DIRECTV and is conducted by an independent polling firm. EchoStar also collects churn data, but only began doing so on a systematic basis in August 2001. A random subset of the people who call to disconnect their service are asked why they are leaving EchoStar and what alternative MVPD service they are switching to instead. Since the EchoStar churn data are based on a sample of subscribers obtained during the call to disconnect service, EchoStar's churn data have a high non-response rate. I therefore base most of my analysis on the more reliable DIRECTV data.

63. From an antitrust perspective, a more informative analysis may involve examining the churn data surrounding the DIRECTV price increase in the late summer of 2000. For several months following DIRECTV's announcement of its price increase, it asked a sample of those subscribers who disconnected whether they were aware of the price increase and whether the price increase influenced their decision to disconnect. Among those subscribers sampled who disconnected between August 2000 (when the price increase was announced) and November 2000 and cited cost/price issues as their main reason for departing DIRECTV, 3.1 customers churned to cable and 1.2 customers churned to an antenna for every one customer who churned to EchoStar. One potential concern with this analysis is that the sample size is relatively small (under 100 respondents). Nevertheless, such evidence provides support for the conclusion that there is only limited competitive interaction between the two DBS firms.

64. I also examined the churn data from 2001 when DIRECTV did not change prices. (Some customers may nonetheless have experienced a price increase during this period, as their previous promotions had expired; others may have perceived a price increase because of changing usage patterns and the different prices attached to different services.) These data are consistent with data from the months surrounding DIRECTV's price increase: For every one customer who left DIRECTV for EchoStar because of cost or price reasons in 2001, 3.4 customers churned from DIRECTV to cable and 1.6 customers churned from DIRECTV to an antenna. Such a finding is consistent with the conclusion that DBS' primary competitor is cable. EchoStar's churn data are also consistent with these results.

65. As an aside, Dr. MacAvoy and Dr. Rubinfeld attempt to argue that the relevant product market for DBS includes digital cable, but not analog cable.<sup>77</sup> The churn data from both DIRECTV and EchoStar suggest that excluding analog cable from the relevant product market would be inappropriate. Indeed, of the customers who disconnected from DIRECTV for cost or price reasons and then subscribed to cable in 2001, roughly one-half subscribed to digital cable and 46 percent subscribed to analog cable.<sup>78</sup> Such findings suggest that analog cable should be included in the relevant product market, especially since the percentage of customers churning to analog cable is

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<sup>77</sup> See, for example, MacAvoy Declaration at ¶ 9 and Rubinfeld Declaration at ¶ 61.

<sup>78</sup> The remaining five percent of subscribers that switched from DIRECTV to cable did not know if their cable service was digital or analog.

substantially greater than the percentage of customers churning to the other DBS provider (which all commenters agree should be included in the relevant product market).<sup>79</sup>

66. For the purposes of examining the competitive effects of the proposed merger, it may be more relevant to analyze where customers are going to churn in the future. One potential way to consider such future changes is to look at more mature MVPD markets – where digital cable systems are generally built out – as an indicator of what form competition may take in other markets in the future. Such an approach has a number of flaws (e.g., some smaller markets may never receive digital cable or overbuilder competition), but it is nonetheless insightful as an indication of future trends. Analysis of churn from DIRECTV in the top 15 DMAs<sup>80</sup> indicates that this switching rate to EchoStar is somewhat lower than the switching rate for the country as a whole. Indeed, the DIRECTV churn data suggest that for every one customer who left DIRECTV for EchoStar because of cost or price reasons in 2001 in these 15 DMAs, 4.1 customers churned from DIRECTV to cable and 1.6 customers churned from DIRECTV to an antenna. Among those subscribers in these 15 DMAs who disconnected when DIRECTV raised its prices, an even lower share went to EchoStar. (It should be noted that the sample size is so small that this result must be viewed as imprecise.) These data suggest a somewhat lower degree of competition between DIRECTV and EchoStar in larger, more mature markets, which may anticipate what future churn rates between the two companies will look like.

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<sup>79</sup> One potential criticism of this analysis is that digital cable is not available in every region of the country. I therefore examined the switching rates from DBS to digital and analog cable in the 15 largest markets, where digital cable is widely available. The results are consistent with the findings for all markets, suggesting that digital cable availability does not significantly bias our results.

<sup>80</sup> I used Nielsen's 2001 rankings based on the total number of TV households in each DMA.

67. As I stated in my declaration submitted to the FCC with the Application, “the smaller the diversion of subscribers from one DBS firm to the other, the smaller would be the expected price increase from conceivable unilateral competitive effects after the merger.”<sup>81</sup> In other words, the data on churn between EchoStar and DIRECTV suggest that cable would continue to constrain the price of New EchoStar in the post-merger world.

#### **OTHER POTENTIAL CONSTRAINTS ON THE PRICING OF NEW ECHOSTAR**

68. The merger will likely reduce marginal costs through, for example, a reduction in the cost of programming per additional subscriber (as described in Section III), thereby offsetting or countering any potential impetus for a price increase in the post-merger world. As the Merger Guidelines specifically state, “marginal cost reductions may reduce the merged firm’s incentive to elevate price.”<sup>82</sup> Therefore, even if some subscribers would be diverted from one DBS firm to the other after a price increase, a reduction in marginal costs resulting from the merger could cause New EchoStar to *lower* its price.<sup>83</sup>

69. In addition, New EchoStar may face another constraint on its ability to raise prices: The churn data suggest that broadcast television cannot necessarily be

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<sup>81</sup> Willig Declaration at ¶ 31.

<sup>82</sup> See the Department of Justice/Federal Trade Commission Horizontal Merger Guidelines, Section Four, available at <http://www.ftc.gov/bc/docs/horizmer.htm>

<sup>83</sup> Carl Shapiro, “Mergers with Differentiated Products,” Remarks before the American Bar Association, 1995.

dismissed as part of the relevant product market.<sup>84</sup> While Dr. Daniel Rubinfeld argues that “the services offered by firms in the MVPD market are different and distinct from traditional public broadcast television services,” he provides no evidence to support this assertion. FCC Commissioner Kevin Martin similarly complains that the FCC’s *Eighth Annual Report* “eliminates broadcasters from the analysis,” and that he would have “preferred either to analyze the market for *all* video programming (and therefore include broadcasters as competitors), or to explain in a direct fashion why an analysis of only the *multichannel* video programming marketplace is more appropriate.”<sup>85</sup>

70. In nearly every analysis of the churn data that I conducted, the percentage of former DIRECTV customers who were using an antenna two to six weeks after leaving DIRECTV’s service was consistently higher than the percentage of former subscribers who signed up with EchoStar. For example, among the people who left due to cost or price reasons in 2001, *more than one quarter* were using an antenna, which is substantially higher than the percentage switching to EchoStar. EchoStar’s churn data are consistent with this finding that more people churn to an antenna than to the other DBS provider.

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<sup>84</sup> It is important to emphasize that broadcast television may indirectly, rather than directly, constrain the prices of premium DBS packages. It is possible that *basic* DBS prices (and analog cable) are constrained by broadcast television, premium prices are in turn constrained by basic prices, and therefore, premium prices are indirectly constrained by broadcast television. A variety of academic papers has examined such “ladder” or vertically differentiated markets and concluded that such outcomes are possible. See, for example, Michael Mussa and Sherwin Rosen, “Monopoly and Product Quality,” *Journal of Econometric Theory*, vol. 18, 1978, pages 301-317; Michael Katz, “Firm-Specific Differentiation and Competition Among Multiproduct Firms,” *Journal of Business*, vol. 57, Issue 1, Part 2: Pricing Strategy, 1984, pages S149-S166; and John Kwoka, “Market Segmentation by Price-Quality Schedules: Some Evidence from Automobiles,” *Journal of Business*, vol. 65, no 4, 1984, pages 615-628.

<sup>85</sup> Separate Statement of Commissioner Kevin J. Martin, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, CS Docket No. 01-129 (released January 14, 2002).



71. The implication of this finding is simple, but inconvenient for those who oppose the merger. The Merger Guidelines delineate the relevant product market by analyzing what set of products has “sufficiently inelastic demand as a group that a hypothetical profit-maximizing monopoly supplier of the set would impose at least a ‘small but significant and nontransitory increase in price.’”<sup>86</sup> The relevant product market is determined by starting with the narrowest set of products and then by expanding the market out until the hypothetical monopoly supplier would profit from a five-percent price increase. The churn data suggest that both digital and analog cable would be in the relevant product market for DIRECTV. The data also imply that one would add broadcast television to the relevant product market for DIRECTV *before* EchoStar was added to the relevant market. (EchoStar’s churn data suggest a similar conclusion.) Whether or not broadcast is in the relevant market, the churn data suggest that opponents of the merger cannot argue that antenna should not be in the relevant product market, but that the degree of competition between the two DBS firms is intense. The survey data of the merging parties are inconsistent with such a position.

#### **ANALYSIS OF POTENTIAL COORDINATED EFFECTS**

72. A price increase as a result of coordinated interaction is also unlikely following the proposed merger, in part due to the way the DBS and cable industries are structured. To set their national prices, DBS firms examine the prices charged by the various cable systems around the country and use these cable prices as a benchmark for

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<sup>86</sup> Robert D. Willig, “Merger Analysis, Industrial Organization Theory and Merger Guidelines,” *Brookings Papers on Economic Activity: Microeconomics*, 1991 at 283.

setting their prices. Cable firms, on the other hand, set price on a local franchise-by-franchise basis, and prices can differ depending on many factors that are specific to the market in which the franchise is located. Although New EchoStar will face competition from at least one cable firm in any particular franchise area, tacitly reaching an agreement on a coordinated price is not simply a question of reaching an agreement with one other firm. New EchoStar will set its price based on a function of what cable firms are charging in the various franchise areas. From the perspective of the cable firms, the optimal price for New EchoStar to charge would likely differ from firm to firm, making an agreement all the more difficult to reach. Thus, a coordinated price increase after the merger would require an agreement among multiple cable firms and New EchoStar, not just an agreement between two firms.

73. Mr. Sidak claims that New EchoStar and cable providers will enter into a “tacitly collusive strategy of market allocation” in which “DBS would keep the rural customers and cable would be free to take the urban customers.”<sup>87</sup> Mr. Sidak implicitly argues that New EchoStar would give up tens of millions of potential subscribers in urban areas and cable providers would not build out systems to currently non-cable passed areas. Such a “tacitly collusive strategy” does not seem to be in New EchoStar’s financial interests. New EchoStar would lose the opportunity to serve the major DMAs – markets in which the DBS firms are currently experiencing their fastest subscriber growth<sup>88</sup> – in exchange for an implicit commitment by cable operators to stay out of areas

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<sup>87</sup> Sidak Declaration at ¶ 58.

<sup>88</sup> According to subscriber data from the two DBS firms, roughly one-half of DBS subscriber growth in 2001 occurred in the top 15 DMAs.

that cable operators would have probably found unprofitable. In other words, New EchoStar would gain only a little and potentially lose a lot from such a deal.

#### **A REVIEW OF THE ECONOMIC ANALYSES OF DR. MACAVOY AND MR. SIDAK**

74. Some commenters have argued that the proposed merger of EchoStar and DIRECTV will result in substantially higher prices and significant consumer welfare losses. For example, Dr. MacAvoy argued that in rural areas, “higher (monopoly) prices and/or lower quality of service has to result from the merger... the proposed merger of EchoStar and DirecTV, by creating a monopoly, would generate significant welfare losses for millions of households.”<sup>89</sup> Mr. Sidak similarly stated that “the proposed merger would lead to an increase in price that harms consumers.”<sup>90</sup> These conclusions, however, are erroneous, because they are predicated on flawed assumptions. Fundamentally, neither Dr. MacAvoy nor Mr. Sidak had the information required to estimate the competitive effects of the proposed merger.

##### *A review of Dr. MacAvoy's analysis*

75. Dr. MacAvoy attempts to estimate the impact of the proposed merger by relying on incorrect assumptions, flawed data, and overly simplistic statistical techniques. He incorrectly assumes that the merger will generate no cost savings; in fact, the merger is expected to generate considerable merger-specific efficiencies which, as Mr. Sidak

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<sup>89</sup> MacAvoy Declaration at ¶¶ 4-5.

<sup>90</sup> Sidak Declaration at ¶ 9.

correctly notes in his comments, should be included in any reasonable analysis of the merger. Dr. MacAvoy assumes that New EchoStar will price discriminate and charge rural subscribers a higher price; on the contrary, New EchoStar has committed to pricing on a national basis. Even if, for the sake of argument, New EchoStar were to price differentially across regions, Dr. MacAvoy significantly overstates the effects of the merger on DBS price and consumer welfare in rural areas because he underestimates the elasticity of demand for DBS services.

76. Dr. MacAvoy estimates rural DBS demand elasticity using a regression in which the dependent variable is the number of subscribers in 83 DMAs and in which the price (average monthly revenue per subscriber including equipment and installation) of DIRECTV is one of the independent variables.<sup>91</sup> Based on this analysis, Dr. MacAvoy concludes that the demand elasticity for DBS services is -1.55. For at least two reasons, this result under-estimates the demand elasticity.

77. First, Dr. MacAvoy's statistical technique does not reflect the fact that the price is endogenous: It reflects shifts in the demand curve as well as movements along that demand curve. By failing to account for the endogeneity of the price, Dr. MacAvoy's technique tends to reduce the estimated demand elasticity. Textbook treatments of the topic have long recognized this to be a problem and routinely recommend the use of "instruments" (such as factors that drive marginal cost) to generate

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<sup>91</sup> MacAvoy Declaration at ¶ 28. Dr. MacAvoy provides scant information on the underlying data in his analysis. For example, he neither explains the methodology used to collect the data from retailers nor does he detail whether the dependent variable only includes subscribers in areas not passed by cable or if it includes all subscribers in the 83 DMAs.

unbiased estimates of demand elasticity.<sup>92</sup> Austan Goolsbee and Amil Petrin, economists at the University of Chicago, recently stated that not using instruments in attempting to estimate the elasticity of demand for DBS services was “naïve” because the kind of statistical technique used by Dr. MacAvoy underestimated the demand elasticity of satellite television.<sup>93</sup>

78. Second, Dr. MacAvoy’s estimate of demand elasticity suffers from the additional problem that he inaccurately measures DBS prices in rural areas. In particular, he does not describe his data in detail and he appears to have had access to price data only for DIRECTV (not EchoStar). Nonetheless, Dr. MacAvoy attempts to estimate the total number of *DBS* subscribers, not *DIRECTV* subscribers. The appropriate price measure should therefore include both EchoStar and *DIRECTV* prices. Unless EchoStar prices are perfectly correlated with *DIRECTV* prices across the DMAs used, the price variable used will introduce some measurement error of actual DBS price variation. The resulting measurement error represents an “errors in variables” problem that tends to reduce the elasticity estimate as well.<sup>94</sup>

79. Dr. MacAvoy’s measure of DBS prices has other problems. For example, it appears as though the price is driven, in part, by customers in different areas choosing different programming packages. Such price variation across areas thus does not

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<sup>92</sup> See, for example, Robert Pindyck and Daniel Rubinfeld, *Econometric Models and Forecasts* (New York: McGraw-Hill, Inc., 1991), pages 293-296.

<sup>93</sup> Austan Goolsbee and Amil Petrin, “The Consumer Gains from Direct Broadcast Satellites and the Competition With Cable Television,” National Bureau of Economic Research Working Paper Number 8317, page 28.

<sup>94</sup> See, for example, Jeffrey M. Wooldridge, *Introductory Econometrics: A Modern Approach* (Cincinnati: South-Western Publishing, 1999), pages 294-296.

represent real price variation (on a quality-adjusted basis). He states that the price data were provided to him by the National Rural Telecommunications Cooperative (NRTC). It is unclear if the data are from retailers in NRTC regions or from the entire DMA. Thus, Dr. MacAvoy has not established that the price information he uses is representative of the DMAs or sub-regions of those DMAs that he is examining.

80. Dr. MacAvoy's underestimate of the demand elasticity for DBS services means that he overstates the effect of the merger on rural subscribers (even if New EchoStar were to price discriminate). To illustrate the sensitivity of Dr. MacAvoy's methodology to the estimated elasticity, I computed the results from Dr. MacAvoy's model using the elasticity of DBS demand in rural areas assumed by Mr. Sidak.<sup>95</sup> As described below, Mr. Sidak does not justify his assumed DBS demand elasticity on an empirical basis, but rather asserts that it is -2.5 for areas not passed by cable.<sup>96</sup> While I believe that -2.5 may be a conservative estimate of the true demand elasticity, using this figure nonetheless produces an inconvenient result for Dr. MacAvoy. In particular, applying Mr. Sidak's assumed elasticity to Dr. MacAvoy's methodology produces a margin for the monopoly DBS provider of 40 percent.<sup>97</sup> But according to the price and marginal cost data cited by Dr. MacAvoy, DIRECTV's *current* margins exceed 40 percent in all but one of the 14 geographical clusters he examined.<sup>98</sup> Using Mr. Sidak's

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<sup>95</sup> There may be reasons for why Dr. MacAvoy's methodology does not equate the Lerner Index to the inverse of the estimated demand elasticity for DBS (e.g. a multi-product firm when all the products are not included in the monopoly Lerner Index). But Dr. MacAvoy asserts that the relationship between the Lerner Index and the estimated demand elasticity should hold in this case. To show the sensitivity of his analysis, I assume solely for argument's sake that his assumption is correct.

<sup>96</sup> Sidak Declaration at ¶ 36.

<sup>97</sup> The margin for a DBS monopolist would equal the inverse of the absolute value of the elasticity of demand, or  $1/2.5$ , which equals 40 percent.

<sup>98</sup> MacAvoy Declaration, Table Five at 46.

elasticity of DBS demand, I find that Dr. MacAvoy's methodology suggests that the merger will not increase prices in 13 of the 14 geographical clusters, and in the fourteenth cluster – the Upper Midwest – prices would rise only slightly, from \$44.13 to \$44.67. The point of this exercise is neither to model specific price effects of the merger nor to imply that Dr. MacAvoy's use of the Lerner Index is appropriate, but to highlight how sensitive Dr. MacAvoy's results are to the estimated demand elasticity – a parameter that Dr. MacAvoy's statistical techniques measure poorly.

81. More generally, Dr. MacAvoy argues that his estimates “clearly indicate low price-cost margins to be associated with very substantial competition between EchoStar and DirecTV in broad clusters of rural markets where cable has not been available.”<sup>99</sup> By implication, Dr. MacAvoy argues that the merger eliminates such competition and elevates prices significantly. However, Dr. MacAvoy fails to establish that the low margins he observes in rural areas are due to competition between EchoStar and DIRECTV. He also fails to note an alternative, and perhaps more likely, reason for the low margins in rural areas: Each DBS provider sets a national price for programming, a price that is constrained by competition from cable systems in the larger DMAs. Dr. MacAvoy appears to assume incorrectly in his model that DIRECTV sets prices in rural areas based on conditions in those areas. Such an assumption is inconsistent with DIRECTV's current national pricing strategy. Thus, the monopoly markup (or Lerner Index) model Dr. MacAvoy uses to estimate price increases is inappropriate. It fails to consider the effect that cable competition has on national prices, even in areas where there is no cable.

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<sup>99</sup> MacAvoy Declaration at ¶ 37.

82. Mr. Sidak's analysis of the competitive effects of the merger in non-cable passed areas is similarly flawed. First, Mr. Sidak assumes that New EchoStar can identify areas with significant non-cable-passed households and price differentially on the basis of that information. Mr. Sidak does not provide an explanation as to how New EchoStar can overcome the practical difficulties of achieving this ability to price discriminate perfectly. As described below, in reality, it is quite difficult for New EchoStar to find, let alone price discriminate against, households that are not passed by cable. Moreover, while Mr. Sidak estimates merger effects separately for areas passed by cable and areas not passed by cable ("cabled" and "uncabled" areas, respectively), he does not include in his analysis that New EchoStar has committed to price its product uniformly throughout the nation.

83. Second, Mr. Sidak assumes that the elasticity of demand for DBS service is -2.5 for uncabled areas and -2.75 for cabled areas. The only basis he provides for these numbers is that the FCC cites -1.95 as the own-price elasticity of demand for cable television and it is "reasonable to use a higher (in absolute value terms) own-price elasticity for DBS service, because DBS is a new product whose demand is likely to be more price-sensitive than the demand for the product of the entrenched monopolist."<sup>100</sup> In other words, there does not appear to be any empirical evidence for Mr. Sidak's assumed elasticity of demand for DBS. In fact, academic research by Drs. Goolsbee and

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<sup>100</sup> Sidak Declaration at ¶ 36.



Petrin has estimated that the elasticity of DBS demand is in the range of -4.1 to -4.9.<sup>101</sup> Using a higher elasticity of demand would lower Mr. Sidak's estimated price increase and would suggest that a modest reduction in marginal costs could prevent prices from rising after the consummation of the merger.

84. In his analysis of the competitive effects in cabled areas, Mr. Sidak assumes that the MVPD market can be represented by two traditional economic models – a Cournot model and a Bertrand model. Based on these two models, Mr. Sidak estimates a price increase of roughly seven percent as a result of the proposed merger.<sup>102</sup> Within such models, a higher elasticity of demand than -2.75 would reduce the price increase estimated by Mr. Sidak. For example, an elasticity of demand of -4.5 for DBS service would cut Mr. Sidak's estimated price increase by 44 percent.

85. Finally, Mr. Sidak does acknowledge that marginal cost reductions of four to seven percent would be large enough to prevent a price rise in cabled areas after the merger.<sup>103</sup> If Mr. Sidak had assumed a higher elasticity of DBS demand, the price increase predicted by Mr. Sidak would be even less significant. Therefore, the marginal cost reductions necessary to attenuate any projected price increase could be even smaller than Mr. Sidak argues.

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<sup>101</sup> See Austan Goolsbee and Amil Petrin, "The Consumer Gains from Direct Broadcast Satellite and the Competition with Cable TV," mimeo. February 20, 2002, pages 29-30.

<sup>102</sup> Sidak Declaration at ¶¶ 38-48.

<sup>103</sup> Sidak Declaration, Table Five at 59.

## SUMMARY OF THE MERGER'S IMPACT ON MVPD COMPETITION

86. Some commenters have argued that the proposed merger between EchoStar and DIRECTV will have a significant adverse effect on competition in the MVPD market. As shown above, these analyses are generally based on incorrect assumptions, flawed data, and/or overly simplistic statistical techniques. My analysis suggests that New EchoStar's national pricing commitment will help to ensure that competitive pressures in larger markets are transferred to smaller rural markets. In addition, a number of factors will continue to constrain New EchoStar's prices in the future. First, most DBS subscribers seem to view cable as their "second choice," so a price increase by New EchoStar would push many current DBS subscribers to switch to cable. Second, the merger-specific efficiencies should help New EchoStar compete more vigorously with cable, which will benefit cable and DBS subscribers. And third, the merger will likely reduce marginal costs through, for example, a reduction in the cost of programming per additional subscriber, thereby offsetting or countering any potential price increase in the post-merger world. Moreover, each entity's churn data indicate that opponents of the merger cannot simultaneously argue that broadcast television should not be in the relevant product market and that the degree of competition between the two DBS firms is intense. As noted above, such a position would be internally inconsistent.

## **V. New EchoStar Would Have Limited Ability to Price Discriminate**

87. Opponents of this merger have argued that the relevant geographic market in which to analyze this merger is a local one, either a DMA<sup>104</sup> or the cable franchise area in cable passed areas or aggregations of areas not passed by cable.<sup>105</sup> However, Dr. MacAvoy also points out that the FCC has accepted the proposition that it is appropriate to look at markets in the aggregate, if these areas face similar supply conditions.<sup>106</sup> In the MVPD market, supply conditions do vary locally depending on whether cable is present in that area or not. However, for the purposes of characterizing the competitive climate, it is not necessary to make a distinction between cable and non-cable passed areas. The key question is whether New EchoStar would be able to price discriminate between areas with cable and areas without cable. As argued below, discrimination on this basis would not generally be successful.

88. As already discussed, the pricing decisions of both DBS firms are largely driven by competition with cable. The price for programming tends to be set nationally. As described in more detail below, there are reasons why it makes sense for DBS firms to set a national price. Even if this were not the case, it would be extremely difficult to identify with precision which consumers had cable available and which ones did not have cable available.

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<sup>104</sup> Rubinfeld Declaration at ¶ 36; Sidak Declaration at ¶ 22.

<sup>105</sup> MacAvoy Declaration at ¶ 12-13.

<sup>106</sup> Id at ¶ 10.

89. It is also true that, by and large, national pricing holds with respect to both programming and equipment. Equipment is sold either directly by the DBS firms on a national basis, by local or regional retailers, or, in most cases, by large, national retail chains that also set a national price. These chains are present in so many areas that consumers, regardless of whether they have cable as an option, will be able to take advantage of these national offers. To the extent that there are local deviations in equipment and installation prices, this does not suggest the market is local since, despite these variations, prices likely move together across regions and these deviations are not a function of the availability of cable in a particular region. Indeed, equipment and installation price differences across regions may reflect idiosyncratic differences within local retail markets, not regional price discrimination by the DBS firms.

90. As noted throughout this declaration, New EchoStar has committed to pricing on a national basis. New EchoStar has indicated that it is willing to accept requirements reasonably necessary to ensure that its national pricing practice operates as an effective mechanism for avoiding price discrimination and for exporting competition from larger markets to rural and other areas throughout the country. Such restrictions should attenuate any concerns that New EchoStar would use targeted local promotions to price discriminate or to undermine the effectiveness of its national pricing commitment.

## LOCAL VARIATIONS IN PROGRAMMING PRICE WOULD BE INEFFICIENT FOR NEW ECHOSTAR

91. Both EchoStar and DIRECTV have always used national pricing with respect to programming. Both firms offer a national service and offering a national price allows the firms to take advantage of this national footprint when marketing their services. National television advertising, for example, can be employed and the price of the service can be made a part of these campaigns. Customer service and direct sales also are done on a national basis and implementing local price variations would require these customer service representatives to be knowledgeable about a wide range of prices, only some of which would be available to any particular customer.

92. While it is true that some local variations exist with respect to promotions, these are largely with respect to equipment, installation, and value-added gifts (e.g., an umbrella).<sup>107</sup> Dr. Rubinfeld argues that some variation in program pricing on a regional basis does exist today, because the two DBS firms charge separately for local channels and local channels are only available in certain markets.<sup>108</sup> Though this is true, it is not clear how this is relevant to the competitive analysis of this merger. Each firm charges the same price for the local channel option across all markets, so this is just another example of a national price for programming, with the only difference being that only certain consumers are able to purchase this option. Eligibility for this option is strictly on a DMA basis, not on the basis of whether cable is available to that consumer or not.

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<sup>107</sup> For example, EchoStar has only offered one local *programming* promotion; for a limited time, EchoStar offered free local service to subscribers in Simi Valley, California.

<sup>108</sup> Rubinfeld Declaration at ¶ 35.

93. As further evidence of the difficulty of charging different programming prices in different areas, it is important to note that where an NRTC affiliate, Pegasus Satellite Television ("Pegasus"), sells DIRECTV service, it charges \$3 a month more than does DIRECTV for the same service.<sup>109</sup> However, EchoStar could maintain its competitive position vis-à-vis DIRECTV and charge an extra \$1 or \$2 in the NRTC areas served by Pegasus. The fact that EchoStar does not react to this price disparity and charge higher prices in the areas where it competes with Pegasus (or other NRTC members and affiliates with disparate pricing) is *prima facie* evidence of the inefficiencies of regionally pricing DBS services. The DBS firms charge the same price for programming everywhere because to do otherwise would involve transactions costs – costs that I understand make this practice inefficient.<sup>110</sup>

94. As described in the next subsection, it is also likely that EchoStar would not be able to identify customers in non-cabled passed areas with enough accuracy to make a price discrimination strategy profitable. In particular, it would be necessary for EchoStar to be wrong only in a relatively small number of cases to make it unprofitable to charge different prices to non-cabled and cabled customers.<sup>111</sup> Let us suppose that EchoStar attempted to charge five percent more to consumers in what it thought was a non-cabled area. If EchoStar cannot precisely identify non-cabled and cable areas, some percentage of the people who are targeted for this price increase in the "non-cabled" area

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<sup>109</sup> For example, Pegasus sells the DIRECTV's Total Choice® package for \$34.99, while DIRECTV sells it for \$31.99; Pegasus sells the Total Choice® Plus package for \$38.99, while DIRECTV sells it for \$35.99. See <http://www.pegsttv.com/> and <http://www.directv.com/>

<sup>110</sup> For example, many DBS customers move and reconnect their DBS service at their new home. DBS executives note that it would be hard to explain to such customers why they were being charged different prices based on where they reside.

<sup>111</sup> Jerry Hausman, Gregory Leonard and Christopher Velturo, "Market Definition Under Price Discrimination," *Antitrust Law Journal*, Volume 64, 1996, page 367-386.

would, in fact, have cable as an option – and some percentage of these customers would be inclined to switch to cable in response to the DBS price increase. To analyze the profitability of the price increase, EchoStar would compare its profits before the price increase and after the price increase. The profit earned before the price increase would be equal to  $(P - C)N$ , where  $P$  is the price,  $C$  is the marginal cost of producing the service, and  $N$  is the number of consumers in the targeted area. The profit after the price increase would be  $(1.05P - C)XN$ , where  $X$  is the percentage of people who do not switch to cable (so that  $1-X$  is the percentage of targeted customers who switch to cable). The breakeven value for  $X$  is equal to:<sup>112</sup>

$$\frac{\frac{P}{C} - 1}{1.05\frac{P}{C} - 1} \quad (3)$$

The percentage of people who do not switch needs to be greater than this ratio for the price discrimination attempt to be profitable. For example, if the ratio of price to marginal cost is about 1.67 – which is about what Dr. MacAvoy argues it is for EchoStar – only 11 percent of the households targeted with the price would have to switch away from DBS in order for it to be unprofitable to attempt to price discriminate against customers in rural areas.<sup>113</sup>

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<sup>112</sup> Id at 374.

<sup>113</sup> Id at 375.

**IDENTIFYING WHETHER CABLE IS AVAILABLE TO A CONSUMER IS EXTREMELY DIFFICULT AND IMPRECISE**

95. Dr. MacAvoy and Mr. Sidak both present a series of maps that purport to show areas where cable is available and where cable is not available and purport to show that it is possible to identify these areas with a great deal of precision. However, it cannot be concluded from these maps that New EchoStar could implement a price discrimination scheme based on whether customers had cable available or not. First, it is important to realize that these maps are based on information that is provided to Warren Communications (“Warren”) by the cable companies. To the extent this information is inaccurate or not kept current, Warren’s information will not be accurate.

96. I independently tested the accuracy of the Warren data in two ways: First, I analyzed the DIRECTV churn data and examined whether any customers who lived in zip codes that the Warren data suggest were not passed had churned from DIRECTV to cable. That is, the data that Dr. MacAvoy and Mr. Sidak present suggest that a large number of zip codes are not passed by cable. But the DIRECTV data indicate that *more than one quarter* of the customers who lived in these supposedly non-cable passed zip codes and who left DIRECTV, left for a cable provider. To ensure that the problem is not with misreporting in the DIRECTV churn data, I asked Ginsberg Lahey, LLC, a Washington-based research firm, to check the accuracy of these results by contacting the local cable firms to ensure that subscribers in these zip codes could receive cable service. For a significant number of these zip codes, Ginsberg Lahey was able to confirm the accuracy of the DIRECTV churn data by verifying with the local cable provider that



cable service was indeed available. Second, Ginsberg Lahey contacted local cable firms in zip codes that the data used by Dr. MacAvoy and Mr. Sidak suggested were not passed by cable. In the past two weeks alone, they discovered that at least 20 zip codes were in fact cable passed that the data indicated were not passed by cable.<sup>114</sup>

97. While such findings raise questions about the data used by Dr. MacAvoy and Mr. Sidak, the point of the analysis is not to undermine the data collected by Warren. Rather, it is to highlight how difficult it is to identify cable passed areas. Given the substantial uncertainty involved with targeting non-cable passed households, it is not surprising that the two DBS firms have not tried to price discriminate against them in the past and why New EchoStar would likely not find it profit-maximizing to price discriminate against them in the future.

98. Opponents of the merger have also dismissed the data on cable passed homes from Paul Kagan Associates (“Kagan”), a telecommunications consulting firm.<sup>115</sup> These commenters prefer the Warren data, which suggest significantly fewer households are passed by cable.<sup>116</sup> Commenters indicate that Warren finds that 92 million homes are

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<sup>114</sup> Ginsberg Lahey found that cable service was available in the following zip codes: 13635, 13690, 24649, 25040, 25205, 30045, 30297, 30127, 37191, 40165, 46175, 47145, 42085, 55783, 63966, 66040, 70577, 72073, 77561, and 77650. The Warren database suggests that each of these zip codes is not passed by cable.

<sup>115</sup> See NRTC Petition to Deny at ¶¶ 9-32; Pegasus Petition to Deny at 15-18; National Association of Broadcasters Petition to Deny at 45-47; Sidak Declaration at ¶¶ 73-75.

<sup>116</sup> A number of commenters have suggested that the percentage of homes not passed by cable may increase in the future, since small, rural cable providers may be forced into bankruptcy. See, for example, Sidak Declaration at ¶ 32 and Rubinfeld Declaration at ¶ 39. These commenters cite a Credit Suisse First Boston report that looks at the poor economic health of many rural cable systems and suggests many will fail. See Credit Suisse First Boston, *Natural Selection: DBS Should Thrive As the Fittest to Serve Rural America*, October 12, 2001. However, these commenters ignore the section of the Credit Suisse report which states that “cable systems are constantly traded between MSOs in an effort to create cable clusters. As a result, some smaller systems may be acquired by larger MSOs that can justify digital video/cable modem

passed by cable,<sup>117</sup> while the Kagan data suggest that 104 million homes are cable passed.<sup>118</sup> No commenter has provided any evidence that the Warren data are more accurate than the Kagan data, which the FCC has cited over the years as its source on the number of homes passed by cable.<sup>119</sup> In the end, the significant debate over the percentage of homes passed by cable is only relevant if New EchoStar is able to “find” the non-cable passed homes. As emphasized throughout this section, it is extremely difficult and costly to find such homes.

99. In addition, even if the Warren (or Kagan) maps and data were accurate, it is not the case the cable franchise areas correspond to geographic designations such as DMAs, counties, or even zip codes. Thus, even if New EchoStar were to price differently based on the zip code of a customer, the zip code of a customer will not tell them precisely whether that customer is passed by cable or not. As argued above, if New

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investments in these systems as a means of maintaining competitiveness against DBS, even though the actual investment may be economically irrational in and of itself.” In other words, even though rural cable providers may not be financially viable, rural households will continue to receive cable service. One such example comes from the recent experiences of Classic Communications, a rural cable provider. Classic filed for bankruptcy protection in November 2001. It did not, as commenters suggest, “go dark.” See Rubinfeld Declaration at ¶ 39. Rather, Classic “intends to continue to conduct business as usual, with no changes in service or pricing.” It sold two of its subsidiaries – Universal Cable Communications, Inc. and Universal Cable Holdings – to raise cash. Classic intends to “emerge quickly from bankruptcy with a strong regional presence in its core markets of operation.” See Classic Communications Press Release, “Classic Communications, Inc. to Restructure Operations Under Chapter 11; Company to Continue To Conduct Business as Usual,” November 13, 2001. While rural cable firms may go bankrupt in the future due to competition, the evidence appears to suggest that rural customers will continue to have a cable option, as bankrupt companies sell their infrastructure to larger cable providers or restructure their own operations under the relevant bankruptcy laws.

<sup>117</sup> See Pegasus Petition to Deny at 3.

<sup>118</sup> Eighth Annual Cable Competition Report, Appendix B, Table B-1.

<sup>119</sup> See, for example, Eighth Annual Cable Competition Report, Appendix B, Table B-1. Kagan sends a questionnaire to cable operators and asks for the number of “homes passed” by each cable operator. Some commenters have noted that the definition of homes passed is “confusing” and “sometimes contradictory.” The commenters point to a series of potential definitions, ranging from the number of homes for which “cable television is or can be readily available” to the number of homes that have “feeder cables in place nearby.” See Sidak Declaration at ¶ 75. Although the definition of homes passed does appear to be confusing, the broadest definition – the number of homes that have the potential for being connected to the cable system – appears to be the most appropriate.

EchoStar is often wrong about which customers receive cable, price discrimination may not be profitable.

**VARIATIONS IN EQUIPMENT AND INSTALLATION PRICES CANNOT BE USED TO DISCRIMINATE PROFITABLY AGAINST NON-CABLED CUSTOMERS**

100. Programming prices are only one component of the price to a customer of receiving DBS service. Equipment and installation prices are another component of the total price of receiving the service. However, though there are temporary variations in this part of the price on a local level, it does not appear to be profitable for New EchoStar to attempt to use variations in this part of the price as a way to discriminate against non-cabled customers. As with programming, promotions and pricing on equipment are driven to a large extent by the need for DBS to remain competitive with cable and the fact the customers perceive an advantage for cable with respect to smaller upfront costs.

101. EchoStar and DIRECTV rely heavily on national retail chains, such as Circuit City, Best Buy, Blockbuster, Sears, and Radio Shack for sales of their equipment. For example, national chains accounted for more than 50 percent of DIRECTV's retail equipment sales in 2001. These national chains also prefer to promote their products uniformly on a national basis, as this is the most efficient way for them to market their promotions. National retailers prefer to be compensated uniformly on a national basis, and therefore, any effort by New EchoStar to compensate them differently based on whether a customer is passed by cable would be resisted by the retailers. Indeed, national retailers would likely oppose any plan that imposes additional costs on them to identify

which customers would be eligible for particular promotions based on the customers' residences. In addition, as with the programming discrimination discussed above, such a scheme would be subject to error since it is hard to identify precisely which customers are passed by cable.

102. Retailers, particularly those that are independent, would be free to offer their own promotions and Dr. MacAvoy includes various examples of this happening in the past.<sup>120</sup> However, it is unlikely that such promotions could be used to harm consumers after this merger. First, retailers would be still competing with each other to make sales of New EchoStar equipment and this should discipline any attempt to discriminate against customers. Second, customers in non-cable passed areas have extensive access to the national retailers that sell DBS equipment.

103. To analyze the extent to which households in areas not passed by cable had access to at least one national retailer, I used the same data utilized by Dr. MacAvoy and data from DIRECTV on the location of national retailers.<sup>121</sup> I examined the presence of national retailers in the areas that Dr. MacAvoy suggested had a high-proportion of non-cable passed zip codes.<sup>122</sup> In the maps presented by Dr. MacAvoy, I found that the average distance from towns without cable to the nearest national retailer was often less than 20 miles. For example, in Dr. MacAvoy's "Carolinas" region, the average distance from towns without cable to a national retailer was just 11.1 miles. For the towns without cable in his "Hoosier" region, I found that the nearest national retailer was an average of

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<sup>120</sup> MacAvoy Declaration at ¶ 20.

<sup>121</sup> I included Blockbuster, Best Buy, Circuit City, Radio Shack, and WalMart in our analysis.

<sup>122</sup> See MacAvoy Declaration at 12-25.

13.8 miles away. The evidence therefore suggests that consumers in non-cable passed areas will be able to take advantage of equipment and installation offers from these retailers, which are set on a national basis. Moreover, uniform national pricing by national retailers will minimize regionally differentiated DBS pricing by regional retailers. If a regional retailer in a rural area charges a higher price than the national price charged by national retailers, the regional retailer will lose sales to the national retailer. If households did not have access to a national retailer, they could always take advantage of direct sales from New EchoStar, or could purchase their equipment over the Internet.

104. Thus, though it is true that the video choices available to any particular consumer are dictated by the choices available in any particular area, it is still appropriate to analyze this merger in a national context. DBS prices are set nationally and driven by the need for DBS to compete with cable. Customers in non-cable areas benefit from this, as well as from the prices set for equipment and installation set by national retailers, which are also driven by the need to compete with cable.

#### **CUSTOMER SERVICE DATA SUGGEST NO NON-PRICE DISCRIMINATION**

105. Some opponents of the proposed merger between EchoStar and DIRECTV have argued that New EchoStar would utilize non-price forms of discrimination. These opponents argue, for example, that New EchoStar would provide lower levels of customer service to subscribers in rural areas than in urban areas.<sup>123</sup> To test this

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<sup>123</sup> See Robert Pitofsky, Testimony before the House Judiciary Committee, December 4, 2001, page 8, available at [http://www.house.gov/judiciary/pitofsky\\_120401.pdf](http://www.house.gov/judiciary/pitofsky_120401.pdf)

hypothesis, I analyzed DIRECTV's customer satisfaction survey to determine whether DIRECTV currently engages in any form of non-price discrimination. The results suggest that rural customers are just as satisfied with DIRECTV's overall service and customer service as non-rural customers.<sup>124</sup> For example, 90 percent of cable-passed households and 88 percent of non-cable passed households were either "very satisfied" or "satisfied" with DIRECTV's service, and 80 percent of both cable-passed and non-cable passed households reported that DIRECTV's customer service was "excellent" or "good." Such evidence provides support for the conclusion that the DBS firms do not use non-price discrimination today against rural (or non-cable passed) households.

## **VI. Conclusions**

106. The proposed merger of EchoStar and DIRECTV offers the possibility of substantial efficiency improvements, especially in radio spectrum use, which would directly benefit DBS consumers by providing an expanded array of services (e.g., the provision of local broadcast programming to every DMA in the country, more High-Definition Television channels, more interactive services, and more specialized programming), and also benefit a broader number of consumers by increasing competition with the cable industry. The merger will also make the combined entity's satellite-based broadband service more competitive versus other high-speed Internet access technologies, thereby making it more likely that this satellite-based service will be

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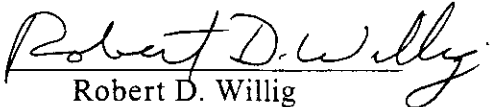
<sup>124</sup> I examined the satisfaction of customers in the largest 15 DMAs versus the smallest 100 DMAs, and households that reported that they were passed by cable versus households that reported they were not passed by cable.

adopted by residential consumers. These efficiencies are not available without the merger.

107. Furthermore, the combined entity's national pricing will be driven by a weighted average of cable prices, with larger markets playing a more important role – that is, competition in larger, more competitive DMAs will likely be “exported” to smaller rural markets and non-cable passed areas. The nature of MVPD market competition makes it unlikely that a merger of EchoStar and DIRECTV would result in higher prices and lower output through either coordinated behavior among the participants in the MVPD market or unilateral behavior by the merged firm. Moreover, the efficiency improvements will also make New EchoStar a more effective competitor to cable providers than either company could be on its own, and could perpetuate a virtuous cycle of competitive innovation. The proposed merger of EchoStar and DIRECTV is thus in the public interest.

**VERIFICATION**

I, Robert D. Willig, declare under penalty of perjury that the foregoing declaration is true and correct. Executed on February 25, 2002.

  
Robert D. Willig